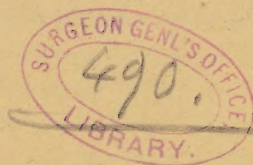
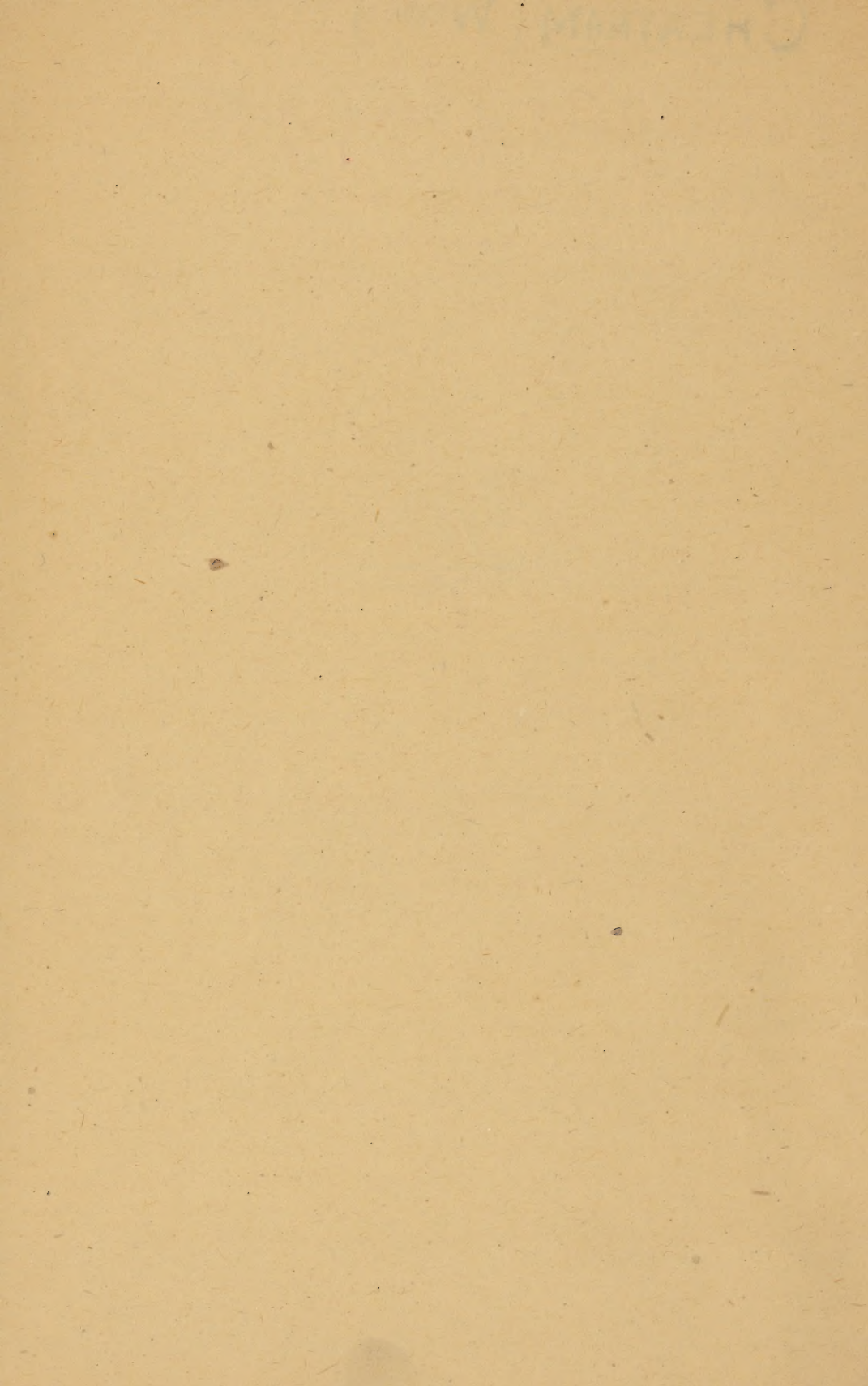


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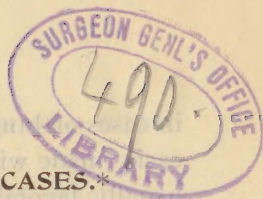
Paralysis of laryngeal
muscles, with cases.





Cheatham (Wm)

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PARALYSIS OF LARYNGEAL MUSCLES, WITH CASES.*

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The larynx has nine muscles, four pairs and a single. Besides these there are three pairs belonging to the epiglottis: the thyro-epiglottis, inferior aryteno-epiglottis, and the superior aryteno-epiglottis. The posterior crico-arytenoidei widen the aperture of the larynx. The crico-arytenoidei laterales and the arytenoideus, assisted by the muscles of the epiglottis and the aryteno-epiglottis, close the aperture of the larynx. Those governing the pitch of the voice are the crico-thyroidei, assisted by the crico-arytenoidei postici, making the cords tense. The thyro-arytenoidei externi shorten, relax, and bring the vocal cords together.

The nerves of the larynx are the superior laryngeal and the inferior or recurrent laryngeal, both branches of the pneumogastric. The superior laryngeal supplies the mucous membrane with sensation, and the crico-thyroid, the thyro-epiglottic, and the aryteno-epiglottici muscles; the other supplies the other muscles, the arytenoideus receiving fibers from both.

Neuroses of the larynx may be either sensory or motor. Those of sensation may be anesthesia, hyperesthesia, paraesthesia, and neuralgia.

Gottstein and Lefferts have given a clinical classification of paralysis of the muscles of the larynx, and Mackenzie a pathological one.

I have seen cases of paralysis of the recurrent laryngeals, unilateral and bilateral, of the adductors, unilateral and bilateral, of the abductors, unilateral and bilateral, and of the arytenoideus.

One case of hysterical paralysis of the adductors, which I believe I reported to this Society before, was in the person of a merchant from one of our interior towns. As in most similar cases the muscles of the lips were also involved. A strong interrupted current with one pole in the larynx soon restored him his voice. I have seen several cases in females, some of them hysterical, and some catarrhal. Rheumatism may produce it, or it may be toxic in its character, depending upon lead or arsenic; lead here affects the adductors alone, as it does the extensors of the forearm. Anemia is a common cause. I have seen sometimes persistent but more often intermittent paralysis of one or both adductors

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in cases of lung phthisis, lasting for several years. Diagnosis is usually easily made with the laryngoscope. Prognosis in adductor paralysis is usually favorable. A brush applied to the larynx or sometimes the simple act of laryngoscopic examination gives relief. Emotional influences give relief frequently. Mackenzie cites a case taken from Herodotus, who speaks of a son of Cræsus who was dumb, but whose voice was restored when some one not recognizing his father was about to kill him. Paralysis of the abductors is a much more serious matter. Here we have the "Gate of Life" about to be closed. The cause may be neuropathic or myopathic. In three cases seen by Mackenzie during life changes were found in the muscles after death, while the nerves and brain were normal.

My object in presenting this paper this evening is to report four cases, one positively paralysis of the posterior crico-arytenoidei; another I am not so positive of, as it is in the person of a child but six months old, rendering a laryngoscopic examination almost impossible, and two cases of paralysis of the recurrent laryngeal nerves, the result of large aortic aneurisms. The last two cases mentioned died in a few days after I saw them of rupture of the aneurism. In these cases no operative interference was indicated, as the cords took the "cadaveric position" in which voice is partially lost, but respiration not much interfered with. These are all the cases of this trouble I can at present recall as having seen. The child referred to above was brought to me about one week ago. The mother said it had had the trouble all its life. As I stated before, the child is but six months old, and its only trouble is on inspiration; expiration is perfectly free; symptoms worse when asleep. The noise it makes then in breathing can be heard all over the house. Its cry and crow are natural. It has no trouble in feeding; its mother says it is as healthy as any other child. After several efforts I could see the epiglottis and the vestibule of the larynx; the epiglottis is an exaggerated omega shape; I could discover no growth of the larynx. A growth of the larynx could give about the same symptoms. I have seen two similar cases in babies, or cases with similar symptoms, which were relieved by pulling the tongue well out, or by holding the children with their faces down. Both of these children had trouble in nursing, this child has none. The present symptoms are those indicative of paralysis or paresis of the cord abductors. I have never heard of a congenital case, unless this is one. Some one may suggest anesthesia for a laryngoscopic examination. There would be great danger attending it; any

one undertaking it should be prepared for an intubation or a rapid tracheotomy.

The second case is in a woman, forty-five years of age, otherwise healthy. She has been examined several times by different doctors, and no cause for the abductor paralysis discovered. The trouble has been coming on for months. She has been treated for hysteria, so she says, having taken a gallon or two of asafetida and valerian. The breathing is so bad at night that policemen have rung the family up and asked if any one was being murdered. When she came to see me about six weeks ago I found expiration free, but inspiration very difficult; voice not much affected. She had had electric and other treatment with no relief. Symptoms made worse by exertion. The laryngoscope gave a perfect picture of paralysis of the post-crico-arytenoidei; the cords were nearly together; the chink enlarged somewhat on expiration, but nearly closed in inspiration; the shape of the cords and the difference in the rarity of the expired and inspired air accounts for this. I suggested that she again try electricity and add to it hypodermatics of strychnia nitrate. She reported in a few days with her trouble much increased; the cords looked some thickened and red; her lips were a little blue; she could not sleep well, and while talking to any one she would fall asleep. Believing the case now to be quite a serious one I suggested to the family either intubation or tracheotomy; they, of course, preferred the former.

This narrowing of the glottis leads to much damage in other organs. This interference of change of gases in the lungs drives the blood back to the right side of the heart, resulting in much damage to distant organs. I did intubation last Thursday afternoon, four weeks, assisted by Dr. H. M. Goodman, her family physician, and Drs. Pusey and Moorman. I inserted with but little trouble an adult hard rubber tube. Vulcanite is better for the adult tubes, especially when used in such a case as this, as there is no membrane to plug them, consequently they are not so liable to be coughed out, weight to prevent it not being necessary, and calcareous deposits are not so liable to form on them, consequently they can be worn longer without a change being necessary; the weight being so much less they are not so liable to irritate the vestibule. The patient complained a good deal of the tube for several days; said she now gets too much air. There was some soreness on swallowing for a few days. Temperature for four or five days was 100° F. To-day, February 21st (Tuesday), temperature is normal; there is but little soreness on swal-

lowing, and she says she sleeps better than she has for months; all drowsiness has disappeared, and color is good. She says she feels like a new woman. She eats solids and semi-solids sitting erect, but has to take fluids with chest lower than the rest of the body.

What is the future of this case? I am inclined to use the intubation tube as long as it can be worn, changing the tube for cleansing, and to utilize new points of pressure every four, six, or eight weeks, by this hoping in some months to get the cords fixed in the "cadaveric position," or if this can not be done, to nick or cut through each cord, then put the tube back. Whether or not this can be done without a preliminary tracheotomy I can not say. I will of course try it later on. I know of no measure of relief that will not destroy or partially destroy the voice; now, with the tube in position, the patient can make herself understood across a large bedroom. I believe, then, that the patient can, should no accident occur, by operative interference get free breathing with partial loss of voice. No book that I know of speaks of intubation for the relief of this difficulty. Tracheotomy is advised. Intubation has been successfully used in similar cases by O'Dwyer and others. Dr. O'Dwyer for one of his cases had a cylindrical tube made, so as to get more lateral pressure.

These cases are fortunately rare. A majority of them die of their own neglect, refusing operative interference, and others of neglect of their physicians, who turn them away as hopeless. A strange coincidence, if the baby's case is one of abductor paralysis, is that both cases live in the same neighborhood, within a square of each other.

While speaking of paralysis, I would state that in the last ten days I have seen two cases of one-sided mydriasis, one of the cases with myosis of the fellow eye, one case of right third and fourth nerve paralysis, one of left third nerve paralysis, with atrophy of the right optic nerve with some of the muscles of deglutition involved, and another with paralysis of the right third, fourth, fifth, and sixth nerves. I also have besides the patient reported, which promises to be a lengthy one for intubation, a child, three years old, who has been wearing a tube twenty-three weeks for a growth of the larynx, the tube staying in at one time seven weeks without being changed, and a woman with phthisical laryngitis, who has been wearing a tracheotomy tube for nine months with perfect comfort.

LOUISVILLE.



